L 00831-67 EWT(m)/EWP(j) RM

ACC NR: AP6027772 (A) SOURCE CODE: UR/0190/66/008/008/1401/1404

AUTHOR: Shlyapnikova, I. A.; Miller, V. B.; Shlyapnikov, Yu. A.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR) 28

TITLE: Critical concentrations in binary antioxidant 1 mixtures 25 B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 8, 1966, 1401-1404

TOPIC TAGS: antioxidant hydroperoxide, solution concentration, oxidation kinetics

ABSTRACT: In a mixture of antioxidants, in which one antioxidant simultaneously terminates and branches the chains and the other reduces hydroperoxides, the process may be made stationary if the sum of concentrations in the mixture exceeds a certain value, the "critical concentration of the mixture." The process will be stationary within same range of mixture compositions when the difference between the sum of antioxidant concentrations and the critical concentration of the mixture is small. On curves for the "composition-induction period," the

Card 1/2 UDC: 678.01:54

L 00831-67

ACC NR: AP6027772 3

region of stationary reaction course corresponds to long induction periods. It was shown experimentally that there is a sharp maximum on curves for the "composition-induction period" during the oxidation of polypropylene containing a mixture of antioxidants (2,6-diisobornyl-4-methylphenol and dilaurylthiodipropionate) at a total concentration of 0.01 mol/kg. The authors thank L. A. Kheyfets for giving them the synthesized 2,6-diisobornyl-4-methylphenol. Orig. art. has: 1 figure, 8 formulas, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 05Jul65/ ORIG REF: 004

hs

Card 2/2

L 00833-67 EWT(m)/EWP(j) RM

ACC NR: AP6027774 (A) SOURCE CODE: UR/0190/66/008/008/1411/1413

AUTHOR: Yasina, L. L.; Gromov, B. A.; Miller, V. B.; Shlyapnikov, Yu. A.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

29

B

TITLE: Investigation of polypropylene oxidation stabilized with 4-methyl substituted alkylphenols

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 8, 1966, 1411-1413

TOPIC TAGS: alkylphenol, phenol, polypropylene, oxidation

ABSTRACT: The oxidation of polypropylene in the presence of 2,6-ditertbutyl-4-methylphenol and 2,6-diisobornyl-4-methylphenol has been investigated. At a certain moment of the induction period, the rate of phenol consumption is sharply decreased. The moment occurs with the maximum concentration of nonvolatile products of antioxidant conversion. It is shown that the self-accelerating oxidation process becomes

Card 1/2 UDC: 678.01:54+678.742

L 00833-67

ACC NR: AP6027774

stationary for some time due to the effect of products of antioxidant conversion. Orig. art. has: 1 figure and 2 formulas. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 05Jul65/ ORIG REF: 004/ OTH REF: 004

hs

Card 2/2

ANDRIYEVSKIY, V.; GRIGOR'YAN, G.; SHLYAPNIKOVA, A., starshiy inzhener

New rules are needed for the technical operation of loading and unloading machines. Mor. flot 22 no.5:6-8 My '62. (MIRA 15:5)

1. Nachal'nik otdela po tekhnicheskoy ekspluatatsii Leningradskogo instituta po proyektirovaniyu morskikh portov i sudoremontnykh predpriyatiy (for Andriyevskiy).

(Harbors--Regulations)
(Cargo handling--Equipment and supplies)

RAYNUS, E.S., inzhener; SHLYAPNIKOVA, A.G., inzhener.

Construction of a large-panel frameless apartment house, Nov.tekh.
i pered. op. v stroi. 18 no.1:11-19 Ja '56. (MLRA 9:6)
(Leningrad--Apartment houses)

RAYNUS, L.S., inzh.; SHLYAPNIKOVA, A.G., inzh.; KREYZMAN, I.N., inzh.;
ROBINSON, D.V., inzh.

Folding -type stairs. Suggested by L.S.Rainus and others. Rats.
i izobr.v stroi. no.9:8 '59. (MIRA 13:1)

1. Po materialam stroitel'nogo tresta No.3 Glavleningradstroya.
(Staircases)

SHLYAPNIKOVA, A.G., inzh.; KREYZMAN, I.N., inzh.

Housing construction combine in Obukhovo. Biul. tekh. inform.
po stroi. 5 no.7:4-6 Jl '59. (MIRA 12:10)
(Obukhovo--Precast concrete construction)

NEKRICH, Ye.I., inzh.; DOBRYNIN, B.F., inzh,; SHLYAPNIKOVA, A.G., inzh.

Organizing the production of reinforcements at the Obukhovo Housing Construction Combine. Biul.tekh.inform.po stroi. 5 no.12:5-7 '59. (MIRA 13:4)
(Leningrad--Reinfoced concrete)

GUTKIN, A.S.; SHLYAPNIKOVA, A.G.

New methods for housing construction; practices of the Obukhovo Combine. Bet.i zhel.-bet. no.4:148-152 Ap '60. (MIRA 13:8)

1. Glavnyy inzhener Obukhovskogo kombinata (for Gutkin). 2. Glavnyy tekhnolog Obukhovskogo kombinata (for Shlyapnikova).
(Leningrad--Precast concrete construction)

G

TRUKHEL', K., inzh.; SHLYAPNIKOVA, A., inzh.

Work practices of the Obukhovo Housing Construction Combine. Zhil. stroi. no.9:11-12 S '60. (MIRA 13:9)
(Leningrad--Apartment houses)
(Precast concrete construction)

PORADNYA, A.I., doktor tekhn. nauk, prof.; SHLYAPNIKOVA, A.G., inzh.; PUCHKOVSKIY, N.V., kand. tekhn. nauk, nauchn. red.; DNEPROVA, N.N., red.izd-va; CHERKASSKAYA, F.T., tekhn.red.

[Organization, planning and economics of construction work] Organizatsiia, planirovanie i ekonomika stroitel'nykh rabot. Leningrad, Gosstroiizdat, 1963. 258 p.
(MIRA 17:2)

KATUNIN, V.Kh.; SHLYAPNIKOVA, A.Y.

Condensation of tar fog in the froth apparatus. Gidroliz. i lesokhim. prom. 12 no.7:10-11 '59 (MIRA 13:3)

1. TSentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut.
(Wood-using industries--Equipment and supplies)
(Gas purification)

SHLYAPNIKOVA, I.A.

7

5

Radical reactions of pentaphenylphosphorus. IV. Reaction of pentaphenylphosphorus with methyl iodide. Mech- [illegible] phosphorus [illegible]

Shlyapnikova (State Univ., Gorki). Zhur. Obshchei Khim. 27, [illegible]; cf. C.A. 51, [illegible].—Ph_5P reacts with MeI by a radical route. Thus, 10 g. Ph_5P and 44 g. MeI after 20 hrs. at 90° in a sealed tube gave 0.1 ml. C_6H_6, 6.3 ml. CH_4, 0.19 g. Ph_2, 0.7 g. Ph_4PI and C_6H_6, MePh, and PhI. The radical nature of the reaction was confirmed by variation of color of solns. of Ph_5P in C_6H_6, pyridine, MeOH, MeI, $CHCl_3$, or AcOH in the presence of 2,4,6-$(O_2N)_3C_6H_2NHNPh_2$ (Ia) (orange changing to the violet color of the free radical of 2,4,6-$(O_2N)_3C_6H_2NNPh_2$ (I) in the presence of free radical sources). The ionic nature of the reaction of Ph_5P with AcOH was confirmed by similar means. The reaction with $CHCl_3$ was followed colorimetrically and a kinetic curve is shown. The reaction in pyridine appears to proceed intramolecularly. I was prepd. as follows: 0.6 g. Ia in 9 ml. pure $CHCl_3$ was shaken with 7 g. PbO_2 and 0.5 g. dry Na_2SO_4 1 hr.; evapn. of the filtrate gave violet prisms of I. Ph_5P with C_6H_6 in the presence of Hg failed to fix any radicals on Hg. Free radical formation was found in reactions with alcs., MeI, C_6H_6, and $CHCl_3$, but none in pyridine.

G. M. Kosolapoff

Distr: 4E4j/4E3d/4E2c(j)

SHANTAROVICH, P.S.; SHLYAPNIKOVA, I.A.

Polymerizarion of cyclohexadiene. Vysokom. soed. 2 no.8:1169-1175
Ag '60. (MIRA 13:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Cyclohexandiene) (Polymerizarion)

89986

S/190/61/003/003/001/014
B101/B204

15.8000 2209

AUTHORS: Shantarovich, P. S., Shlyapnikova, I. A.

TITLE: The kinetics of the polymerization of hydrocarbons with conjugate bond. I. Polymerization of phenylacetylene and the properties of the polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 3, 1961, 363-367

TEXT: The polymerization of phenylacetylene (PhA) was studied on the basis of the assumption that polymers with conjugate double bonds must exhibit high heat resistance. The thermal initiation of polymerization begins with the formation of the dimer: $2CH \equiv CR \longrightarrow \sim RC=CH-CH=CR\sim$ (A). Preparatory experiments showed that the thermal polymerization of PhA always ends with an explosion when it is performed in wide ampoules ($d_c > 20$ mm) at 150°C. At $d_c < 20$ mm, the reaction takes place at thermal equilibrium. The present paper is a report on the kinetics of this reaction. The conditions of thermal autocatalysis and of explosion are to be examined in a special work. 1) Polymerization of phenylacetylene under

Card 1/6

89986

The kinetics of the polymerization... S/190/61/003/003/001/014
B101/B204

conditions of thermal equilibrium : It was found that at $d_c \leqslant 9.0$ mm and a heating temperature of $t_h < 180^{\circ}C$ the heat supply equals the heat loss. Fig. 1 shows the ratio $x/(a - x)$ as depending on time at 136, 156, and $176^{\circ}C$ (a - weighed portion, x - polymer yield). From the inclination of the straight line follows a second-order reaction. The activation energy E_m was found to be 33.7 ± 0.5 kcal/mole. In the case of a high degree of conversion the rate constant (dashed in Fig. 1) will increase, which is explained by a change in viscosity of the medium. 2) Thermal polymerization of dissolved phenylacetylene: n-nonane and cyclohexadiene served as solvents. A slight addition (5%) of the solvent already prevented self-heating of the mass at $d_c = 15$ mm and $176^{\circ}C$. Fig. 2 shows the reaction rate ω and the ratio ω/C_M as depending on C_M, the concentration of the monomer. The reaction rate for nonane as well as for cyclohexadiene was proportional to C_M, and a second-order reaction $\omega = kC_M^2$ took place. The rate constant was nearly the same in both solvents: $k_{nonane} = 0.02$;

Card 2/6

89906

The kinetics of the polymerization...

S/190/61/003/003/001/014
B101/B204

$k_{cyclohexadiene}$ = 0.024 ml/mole.sec. In the mass, $k_{PhA} = 0.052$. k_{solut} approaches this value as soon as $C_M > 0.95$. Since the activation energy E_{sol} = 32.7 kcal/mole is equal to the value of E_m within the error of measurement, the same process takes place in the mass as well as in the solution. Cyclohexadiene does not react any different from the inert nonane. The rate of thermal polymerization of PhA as a function of temperature and concentration reads as follows:

$$-d\left[C_8H_6\right]/dt = \alpha 8.16\cdot 10^{-10} \left[C_8H_6\right]^2 \exp(-336700/RT).$$

For every solvent, $\alpha < 1$. Fig. 3 shows the softening and melting temperatures and the molecular weights (∘) of the 17 fractions of a polymer that were extracted from acetone solution by means of methanol after 10 hr at 156°C, d_c = 9 mm. Fraction 17 (25% of the polymer) could be identified to be symmetric triphenyl benzene. The reaction scheme is likely to be the following:

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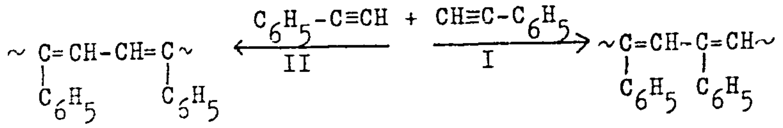
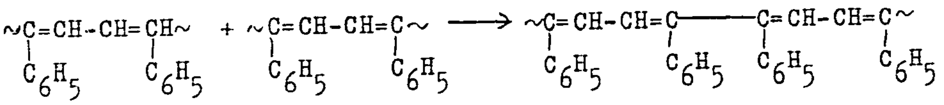
The kinetics of the polymerization...

S/190/61/003/003/001/014
B101/B204

(II)  (I).

$$\sim\underset{C_6H_5}{C}=CH-CH=\underset{C_6H_5}{C}\sim \xleftarrow{II} C_6H_5-C\equiv CH + CH\equiv C-C_6H_5 \xrightarrow{I} \sim\underset{C_6H_5}{C}=CH-\underset{C_6H_5}{C}=CH\sim$$

Reaction I in which the conjunction of the benzyl radical is lost, leads to ring closure and formation of triphenyl benzene. The further development of polymerization according to II takes place after the scheme:



$$\sim\underset{C_6H_5}{C}=CH-CH=\underset{C_6H_5}{CH}\sim + \sim\underset{C_6H_5}{C}=CH-CH=\underset{C_6H_5}{C}\sim \longrightarrow \sim\underset{C_6H_5}{C}=CH-CH=\underset{C_6H_5}{C}-\underset{C_6H_5}{C}=CH-CH=\underset{C_6H_5}{C}\sim.$$

The thermal effect of this reaction (≈ 60 kcal/mole) is the reason for the heating. The obtained polymers do not react with maleic anhydride and thus represent a system of conjugate aromatic bonds. There are 3 figures, 2 tables, and 1 Soviet-bloc reference.

ASSOCIATION: Institut khimicheskoy fiziki (Institute of Chemical Physics)

SUBMITTED: June 14, 1960

Card 4/6

SHANTAROVICH, P.S.; SHLYAPNIKOVA, I.A.

Polymerization kinetics of cyclohexadiene. Part 2. Vysokom.soed. 3 no.9:1364-1368 S '61. (MIRA 14:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Cyclohexadiene) (Polymerization)

SHANTAROVICH, P.S.; SHLYAPNIKOVA, I.A.

Polymerization kinetics of hydrocarbons with conjugated bonds. Part 2: Polymerization of phenylacteylene and paramagnetic properties of polymers. Vysokom.soed. 3 no.10:1495-1499 O '61 (MIRA 14:9)

1. Institut khimicheskoy fiziki AN SSSR.
(Benzene)
(Polymers--Magnetic properties)

S/0000/63/000/000/0253/0259

ACCESSION NR: AT4020715

AUTHOR: Benderskiy, V. A.; Kogan, B. Ya.; Gachkovskiy, V. F.; Shlyapnikova, I. A.

TITLE: Electrical and magnetic properties of polymers with conjugated bonds. I. Polyphenylacetylenes

SOURCE: Karbotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 253-259

TOPIC TAGS: polymer, conjugated polymer, polymer electrical property, polymer magnetic property, polyphenylacetylene, paramagnetic resonance, phenylacetylene polymerization

ABSTRACT: This work initiates a study of the nature of paramagentic centers, the mechanisms of conductivity and the relationship between the two characteristics in conjugated polymers. The electron paramagentic resonance spectra, the electrical conductivity and the optical centers were investigated in fractions of the product of thermal polymerization of phenylacetylene (atomic weight 670). The benzene- and toluene-soluble fractions, with atomic weights ranging from 340 to 1870, were obtained by successive sedimentation. In the tests conducted in nitrogen at 90-370 K and, in part, in a $2 \cdot 10^{-5}$ mm vacuum, a 975 kcps IKhF-2 paramagnetic resonance spectrometer was used. The paramagnetic center concentration and the saturation

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ACCESSION NR: AT4020715

factor determined from the electron paramagnetic resonance spectra, were found to increase as the molecular weight increases. The duration T_1 of spin-lattice relaxation and its dependence on temperature were determined. The signal intensity in unsaturated electron paramagnetic resonance absorption strictly follows the Curie law, the line center having the Lorentz form and the line wings being described by the Gaussian curve. A form analysis showed that a paramagnetic center contains at most 11 equivalent protons. It is concluded that the paramagnetism of the polymers stems from small local centers rather than from molecules of the basic substance, the activation energy of dark conductivity is independent of molecular weight, and the carriers' birth results from the thermal ionization of luminescent centers. "In conclusion, we would like to thank L. A. Blyumenfel'd for discussion of our work." Orig. art. has: 4 graphs and 14 formulas.

ASSOCIATION: INSTITUT KHIMICHESKOY FIZIKI AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 18Jul62 DATE ACQ: 20Mar64 ENCL: 00

SUB CODE: OC NO REF SOV: 012 OTHER: 004

Card 2/2

L 33427-66 EWT(m)/EWP(j) JW/RM

ACC NR: AP6012724 (A) SOURCE CODE: UR/0190/66/008/004/0769/0770

AUTHOR: Shlyapnikova, I. A.; Miller, V. B.; Neyman, M. B.; Shlyapnikov, Yu. A. B

ORG: None

TITLE: Upper critical concentration of an antioxidant 15

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 4, 1966, 769-770

TOPIC TAGS: antioxidant additive, ~~polypropylene,~~ solution concentration, oxidation, ~~antioxidant, critical concentration~~

ABSTRACT: The upper critical concentration of an antioxidant has been investigated. It was shown that antioxidant additives increase the probability that the degenerated chain branching under certain conditions, does possess lower and upper critical concentrations. The upper critical concentration during polypropylene oxidation is shown in the presence of antioxidant-phenyl-β-naphtylamine. Orig. art. has: 1 figure and 3 formulas. [NT]

SUB CODE: 11/ SUBM DATE: 15Oct65/ ORIG REF: 003/

Card 1/1 UDC: 678.01:54

L 00831-67 EWT(m)/EWP(j) RM

ACC NR: AP6027772 (A) SOURCE CODE: UR/0190/66/008/008/1401/1404

AUTHOR: Shlyapnikova, I. A.; Miller, V. B.; Shlyapnikov, Yu. A.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR) 28

TITLE: Critical concentrations in binary antioxidant mixtures 1 25 B

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 8, 1966, 1401-1404

TOPIC TAGS: antioxidant hydroperoxide, solution concentration, oxidation kinetics

ABSTRACT: In a mixture of antioxidants, in which one antioxidant simultaneously terminates and branches the chains and the other reduces hydroperoxides, the process may be made stationary if the sum of concentrations in the mixture exceeds a certain value, the "critical concentration of the mixture." The process will be stationary within same range of mixture compositions when the difference between the sum of antioxidant concentrations and the critical concentration of the mixture is small. On curves for the "composition-induction period," the

Card 1/2 UDC: 678.01:54

L 00831-67

ACC NR: AP6027772

3

region of stationary reaction course corresponds to long induction periods. It was shown experimentally that there is a sharp maximum on curves for the "composition-induction period" during the oxidation of polypropylene containing a mixture of antioxidants (2,6-diisobornyl-4-methylphenol and dilaurylthiodipropionate) at a total concentration of 0.01 mol/kg. The authors thank L. A. Kheyfets for giving them the synthesized 2,6-diisobornyl-4-methylphenol. Orig. art. has: 1 figure, 8 formulas, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 05Jul65/ ORIG REF: 004

hs

Card 2/2

L 00832-67 EWT(m)/EWP(j) RM

ACC NR: AP6027773 (A) SOURCE CODE: UR/0190/66/008/008/1405/1410

AUTHOR: Shlyapnikova, I. A.; Miller, V. B.; Molvina, M. I.; Torsuyeva, Ye. S.; Shlyapnikov, Yu. A.

14
B

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Monoamines as antioxidants and regularities and mechanisms of their effect

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 8, 1966, 1405-1410

TOPIC TAGS: monoamine, polypropylene, antioxidant

ABSTRACT: The oxidation of isotactic polypropylene in the presence of phenyl-α-naphtylamine and phenyl-β-naphtylamine occupying intermediate positions between strong and weak antioxidants was studied. The mechanism of the effect of antioxidants was analyzed. Orig. art. has: 5 figures and 11 formulas. [Based on authors' abstract] [NT]

SUB CODE: 07/ SUBM DATE: 05Jul65/ ORIG REF: 007/

Card 1/1 hs UDC: 678.01:54

Shlyapnikova, N

4

Composition of the water-insoluble residue of cheese and its transformation. I. Klimovskii, T. Tikhomirova, K. Chekalova, and N. Shlyapnikova. *Molochnaya Prom.* 17, No. 7, 28-9(1956).—Changes in Holland's Edam-cheese protein complex resulting from the ripening process were detd. as follows: 0.5 g. of the water-insol. residue (I) of cheese was digested in 30 ml. of 0.2% soln. of NaOH for 5 hrs. at room temp. The digest was then centrifuged and $CaHPO_4$ sediment washed with NaOH soln. The supernatant liquid was brought to pH 4.6 with AcOH to ppt. the paracasein (II) and the mixt. centrifuged. The albuminous matter (III) in the second supernatant liquid and wash water from II was pptd. with CCl_3COOH (added up to 4%) and then centrifuged. The last supernatant and $CaHPO_4$ contained no N. The study revealed that $CaHPO_4$, II- and III-resembling proteoses are the major constituents of I, that III not only contained no P, but that its concn. in I increased with the ripening time. The concn. of P in II remained relatively const. during the ripening period and corresponded to that of II in fresh cheese and casein in milk. The authors believe that the above results are conclusive in showing that not all of the paracasein mols. are simultaneously degraded by the enzymes, that a large part of II remained unaffected by these processes, and that III is a fragment of II. Consequently, the changes in the av. compn. of cheese could not be considered as an evidence that all of the II undergoes chem. changes during ripening. V. N. K.

SHLYAPNIKOVA, N.

4

✓Nature of the soluble albuminous matter in Holland's cheese. I. Klimovskii, K. Cheknlova, T. Tikhomirova, and N. Shlyapnikova. *Molochnaya Prom.* 18, No. 1, 25–6 (1957).—Water-sol. albuminous matter of Edam cheese was obtained as follows: A weighed portion of cheese was re-emulsified in distd. water at 45–50° in 1:4 ratio. The mixt. was left for 2 hrs. at room temp. and then centrifuged. The supernatant liquid was brought to pH 4.6 with AcOH to ppt. the 1st fraction (I) and the mixt. centrifuged. The albuminous matter (II) in the 2nd supernatant liquid and the wash-water from I was pptd. with CCl$_3$COOH (added up to 4,5%); the mixt. was left for 12 hrs. and then centrifuged. I and II were treated with alc. and Et$_2$O and then dried at room temp. prior to analyses. The study revealed that I and II contained, resp., 35–7 and 22–4 atoms of N/atom of P as compared with 44–7 atoms of N in the paracasein, and that the concn. of I and II in cheese increased with the ripening time. The concn. of inorg. P in cheese, however, remained relatively const. during the ripening period and that of nonalbuminous org. P increased several times owing to the synthesis of phosphopolypeptides. In addn. purine bases were detected spectrophotometrically in I, but not in II. It is concluded that the water-sol. albuminous matter in Edam cheese is a mixt. of different substances derived from paracasein through proteolytic action and contg. nucleoproteins from autolyzed bacterial cells.

Vladimir N. Krukovsky

28179
S/190/61/003/010/008/019
B124/B110

15.8540 also 1137, 1147 2409

AUTHORS: Shantarovich, P. S., Shlyapnikova, I. A.

TITLE: Polymerization kinetics of hydrocarbons with conjugated bonds. II. Polymerization of phenyl acetylene and paramagnetic properties of polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 10, 1961, 1495 - 1499

TEXT: An easily soluble red polymer with a molecular weight of ~600 - 650 is formed in thermal polymerization of phenyl acetylene at thermal equilibrium (130 - 180°C, diameter of the vessel d_c = 9 mm). The maximum chain length of the polyphenyl acetylene molecule does not exceed 16 - 17 monomer links under any polymerization conditions. Symmetrical triphenyl benzene with a definite melting point at 171°C was formed as fraction with lowest molecular weight (306), in the reaction

X

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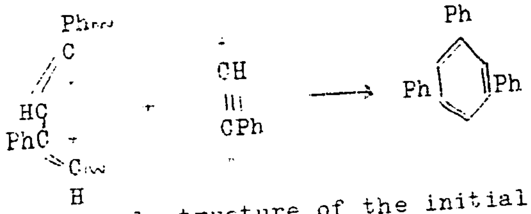
S/190/61/003/010/008/019
B124/B110

Polymerization kinetics of...

(I) 

(1), which may occur when the tridimensional structure of the initial center of polymerization, i. e., of the dimer biradical (I), corresponds to the benzene structure. The yield in triphenyl benzene attains 25 - 27%. The symmetrical structure of the biradical $\sim\underset{Ph}{C} = CH - CH = \underset{Ph}{C}\sim$ (II) is another initial center for polymerization. The growth of polymer chain occurs either (1) by recombination of biradical II or (2) more probably by simultaneous growth at the ends of the biradical: $PhC \equiv CH + \sim\overset{Ph}{C} = CH - CH = \overset{Ph}{C}\sim + HC \equiv CPh \rightarrow \sim\underset{Ph}{C} = CH - \overset{Ph}{C} = CH - CH = \overset{Ph}{C} - CH = \underset{Ph}{C}\sim$ etc. (2), trimer formation being

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S/190/61/003/010/008/019
B124/B110

Polymerization kinetics of...

excluded. A study of polymer fractions showed that the chain length λ of the molecule contains at least 6, and rarely more than 13 - 14, monomer links. This was confirmed by polymerization of cyclohexyl acetylene carried out by M. I. Pugina in the authors' laboratory. The authors assume the chain breaking at $\lambda < 6$ and chain stabilization at $\gamma \geqslant 17$ to be a monomolecular breaking due to cyclization. The epr spectra of the resulting polymers were measured with an apparatus of a sensitivity of $\sim 1 \cdot 10^{16}$ paramagnetic particles per gram of substance. The polymer molecule is very stable and reaches its maximum chain length in thermal polymerization ($\lambda = 16 - 17$ monomer units, $M = 650$) at a reaction temperature below 250°C. Depolymerization takes place at higher temperatures. The molecular weight drops to 400. A liquid, benzene-containing phase is liberated, whereas in polymerization at $t \geqslant 300$°C a product with constant $M \approx 400$ and an intensive epr signal is formed (Fig. 2). The initial polymer has an epr signal not vanishing with time, and contains $\sim 10^{17}$ paramagnetic particles per gram of substance. At a temperature of $\geqslant 400$°C a product ($M = 400$; $n = 8.5 \cdot 10^{19}/g$) is formed consisting probably of condensed aromatic nuclei with side groups of radical character. A new polymer

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S/190/61/003/010/008/019
B124/B110

Polymerization kinetics of ...

with increased molecular weight and melting point (350°C) is produced at $t > 450$°C, whereas carbonization and increase of epr signal occur at $t > 500$°C (Table 3). There are 2 figures, 3 tables, and 5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: Ref. 2: H. F. Hameka, J. Chem. Phys. 31, 315, 1959; Y. Matsunaga, Canad. J. Chem. 37, 1003, 1959; Ref. 3: P. W. Anderson, J. Phys. Soc. Japan 9, 316, 1954.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

SUBMITTED: November 14, 1960

Card 4/6

SHLYAPNIKOVA, N.

Polypeptides and phosphorus-containing compounds in Holland's cheese and their relation to the ripening process. I. Klimovskii, T. Tikhomirova, K. Chekalova, and N. Shlyapnikova. *Molochnaya Prom.* 18, No. 8, 30-2(1957); cf. C.A. 51, 7604i.—Paracasein degradation into simple polypeptides (I), phosphopolypeptides (II), and free amino acids was studied by reemulsifying a weighed portion of cheese in distd. water at 45-50° in 1:4 ratio. At the end of 3 hrs. at room temp. the mixt. was centrifuged, and the sediment was washed with distd. water and recentrifuged 3 times. The albuminous matter in the supernatant liquid was pptd. with CCl_3COOH (added up to 4.5%) and centrifuged. The supernatant liquid brought to pH 5.6 with NaOH was then treated with 20% soln. of tannin to ppt. I and the mixt. centrifuged. The last supernatant liquid was finally treated with alc. to obtain II. I was extd. with Et_2O, washed with $(CH_3)_2CO$, and then dried at room temp. The data show that I and II were formed in the course of cheese ripening and that II contained relatively large amts. of P. Furthermore the concn. of org. nonalbuminous P increased with time, while that of inorg. P in the water-sol. part of cheese remained relatively const. during the ripening period, suggesting a possibility that phosphoric acid was not set free from II in detectable amts. It was concluded, therefore, that the proteolytic splitting of the paracasein mol. was not carried on to a point of a complete liberation of all the amino acids in the mol.

Vladimir N. Krukovsky

SHLYAPIN, Vladimir Borisovich; LEONT'YEV, Dmitriy Vasil'yevich

[Cold welding of contact wires] Kholodnaia svarka kontaktnykh provodov. Moskva, Transport, 1965. 28 p.
(MIRA 18:10)

USSR / Zooparasitology. General Problems. G-1

Abs Jour: Ref Zhur-Biol., No 20, 1958, 91000

Abstract: infected was the ruff (5 species). The most prevalent parasites in the lake were: Tetracotyle sp., Diplostomulum spathaceum, D. clavatum, Ergasilus sieboldi, Triaenophorus sieboldi and Diphyllo-bothrium latum.

Card 2/2

SHLYAPOBERSKIY, V. I.

Cand. Technical Sci. "Means of Increasing the Reliability of the ST-35 Apparatus," Vest. Svyazi-Elektrosvyaz', No. 2, 1948; "Russia - Mother of the First Electromagnet and First Letter-Typing Telegraphic Apparatus," ibid., Nos. 6-7, 1948.

SHLYAPOBERSKIY, V.I.

GORODNICHIN, N.T.; SHLYAPOBERSKIY, V.I.

Works of Russian innovators in the field of telegraphy in the second half of the 19th century. Trudy po ist.tekh. no.6:59-73 '53. (MLRA 7:5)
(Telegraph--History)

SHLYAPOBERSKIY, V.I.

Channel multiplexing of telegraph communication systems. Elektrosviaz' 15 no.7:66-70 Jl '61. (MIRA 14:6)
(Telegraph)

SHLYAPOBERSKIY, Veniamin Issakovich; VRUBLEVSKIY, A.V., inzh.-polkovnik, red.; SOLOMONIK, R.L., tekhn. red.

[Elements of discrete communication systems]Elementy diskretnykh sistem sviazi. Moskva, Voenizdat, 1962. 235 p. (MIRA 15:12)

(Information theory) (Telecommunication)

SHLYAPOBERSKIY, V.I.

Elementy diskretnykh sistem svyazi. Moscow, Voyenizdat, 1962
235 p. illus., diagrs., tables.

BRUSILOVSKIY, Korneliy Aleksandrovich; SHLYAPOBERSKIY, V.I., dots., retsenzent; MANDEL'SHTAM, S.M., kand. tekhn. nauk, retsenzent; SIDEL'NIKOV, V.V., dots., otv. red.

[Measurements of pulse distortions in discrete information transmitting systems] Izmereniia iskazhenii impul'sov v sistemakh peredachi diskretnoi informatsii. Moskva, Nauka, 1965. 110 p. (MIRA 18:8)

L 2908-66 EWT(d)/FSS-2

AM5013195 BOOK EXPLOITATION UR/ 70 45 36 B+1

Shlyapoberskiy, Veniamin Isaakovich 41,55 9,44,55

Elements of discrete communications systems (Elementy diskretnykh sistem svyazi) 2d ed., rev. and enl. Moscow, Voyenizdat M-va obor. SSSR, 1965. 303 p. illus., biblio. 15,000 copies printed

TOPIC TAGS: discrete information system, code, pulse modulated code, pulse modulation, trigger, flip flop, cold cathode flip flop thyratron, logic circuit, logic operation, register, pulse counter, code conversion, error detection, error correction, noise suppression, noisefree system synchronous system, asynchronous system

PURPOSE AND COVERAGE: This book is intended for officers concerned with the study and operation of discrete communication systems and for cadets in military schools. It can also be used by students in civilian schools of higher education as well as by engineers engaged in the study, development, and operation of coded communications systems. This revised and enlarged second edition deals with the basic concepts and definitions of discrete communication systems. Coding problems, transmission methods, and the reception of coded information are discussed.

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Equipment elements, principles of structural design, and the circuit diagrams of basic devices of discrete communication systems using contactless elements are examined in detail. Distribution, conversion and decoding of information, synchronization and phasing problems, methods of recording received pulses, and regenerative ability of systems are analyzed. The concluding section of the book is devoted to a description of the structural design of terminal equipment. Several new chapters on such subjects as cyclic codes, logical feedback registers, code converters of correcting codes, etc. are included in this second edition. The author thanks E. A. Krogiyns, 44,55 Candidate of Technical Sciences, K. A. Brusilovskiy, Candidate of Technical Sciences, and Engineer B. I. Zaborov for their assistance. 44,55 44,55

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SUB CODE: EC SUBMITTED: 07Dec64 NO REF SOV: 040

OTHER: 016

Card 9/9 KC

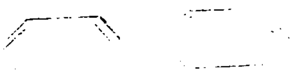
SOV/79-28-12-21/41

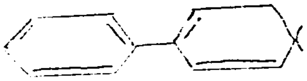
AUTHORS: Yegorov, Yu. P.; Kaplan, Ye. P.,
Letina, Z. I.; Shlyapochnikov, V. A.;
Petrov, A. D.

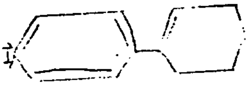
TITLE: On the Order of Affiliation of Lithium to Diphenyl (O poryadke prisoyedineniya litiya k difenilu)

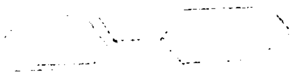
PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3258-3262 (USSR)

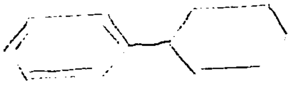
ABSTRACT: Continuing the papers of references 1 - 6 the authors intended to determine more in detail the points of affiliation of lithium to diphenyl. In connection herewith the ultraviolet and infrared absorption spectra of the following hydrocarbons synthesized by them were taken:

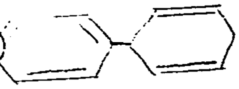
(I)


(II)


(III)


(IV)


(V)


(VI)


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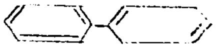
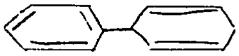
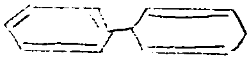
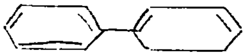
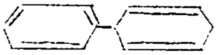
The ultraviolet absorption spectra may be seen in figure 1; they show the abrupt deviation of the spectra (I), (II), (III) and (VI) from (IV) and (V). The spectra (IV) and (V) are the same and differ only slightly from the known ultraviolet spectra of monosubstituted benzenes. These data do not prove the quinoid structure of the second nucleus in (VI). Therefore, when taking into account the intensity (ε) in the spectrum (VI) (12,000), its structure corresponds to the form  Generally speaking, it may be assumed that there is also a mixture of diphenyl with  or (II) with , as well as  with . The infrared absorption spectra taken agree with the ultraviolet ones as concernes their results; they show that the synthesized hydrocarbons may be divided into two groups, i.e. into those (I, II, III, VI) having con-

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On the Order of Affiliation of Lithium to Diphenyl SOV/79-28-12-21/41

jugated bonds with the phenyl nucleus, and those (IV) and (V) not having such a bond (Fig 2). Starting from what was said it may be assumed that the affiliation of lithium to the diphenyl takes place in position 3,6, not in position 1,4, as reported by Schlenk and Bergmann (Shlenk, Bergman). There are 2 figures and 13 references, 3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences, USSR)

SUBMITTED: November 28, 1957

Card 3/3

Shlyapochnikov, V.A.

5.3200

82102
S/062/60/000/07/06/007
B015/B054

AUTHORS: Shuykin, N. I., Pozdnyak, N. A., Shlyapochnikov, V. A.

TITLE: Catalytic Alkylation of Tetralin. Information 2. Alkylation of Tetralin With Heptene-1

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 7, pp. 1254-1257

TEXT: The authors alkylated Tetralin with heptene-1 in a continuous-flow apparatus using two types of catalysts. In one series of experiments they used an aluminum oxide treated with hydrofluoric acid (10% and 20% HF), in the other series an aluminosilicate catalyst; the experiments were carried out at atmospheric and increased pressure and at different temperatures (Tables 1-3, influence of different test conditions). In the catalytic alkylation, a mixture of β-heptyl Tetralin and β,β'-diheptyl Tetralin was obtained. The given data show that with the aluminosilicate catalyst the following optimum conditions exist: volume velocity 0.25 hours^{-1}, temperature 200°C, pressure 10 atm, molar ratio Tetralin : heptene-1 = 2 : 1. Under these conditions, the yield in β-heptyl Tetralin is 48.7%

4

Card 1/2

82102

Catalytic Alkylation of Tetralin. Information 2. Alkylation of Tetralin With Heptene-1

S/062/60/000/07/06/007
B015/B054

with respect to heptene-1, and 24.3% with respect to Tetralin. The infrared spectra of the heptyl Tetralin synthesized showed that the heptyl group lies in the β-position. B. A. Kazanskiy, G. A. Tarasova, and O. D. Sterligov are mentioned in the paper. There are 3 tables and 6 references: 3 Soviet and 3 American.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: December 10, 195

Card 2/2

S/076/60/034/04/31/042
B010/B009

AUTHORS: Yegorov, Yu. P., Romadan, I. A., Shlyapochnikov, V. A., Shuykin, N. I. (Moscow)

TITLE: Investigation of the Structure of the Radicals of Substances Obtained by Alkylation of Aromatic Hydrocarbons by Means of Alcohols in the Presence of Boron Trifluoride

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 4, pp. 888 - 893

TEXT: In a number of earlier papers (Refs. 1-6) I. A. Romadan described a method for the alkylation of aromatic hydrocarbons with molecular alcohol compounds of boron trifluoride at 165-170° in an autoclave, or at a pressure of 1 atmosphere. The results obtained do not agree with those given by other authors, and it is assumed that a different reaction mechanism prevails under such conditions (without activator and at 165-170°). For instance, in the alkylation of naphthalene with n-butyl, n-amyl, and n-propyl alcohol alkyl naphthalenes with normal radicals were obtained. The structure of n-butylnaphthalene was confirmed spectroscopically (Ref. 13) and by a special method of deuterium exchange at the fiziko-khimicheskiy Institut im. L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov) in the

Card 1/2

Investigation of the Structure of the Radicals of Substances Obtained by Alkylation of Aromatic Hydrocarbons by Means of Alcohols in the Presence of Boron Trifluoride

S/076/60/034/04/31/042
B010/B009

laboratory of A. I. Shatenshteyn. The reaction mechanism can hardly be explained by means of the data concerning the alkylation with iso-alcohols; however, the reaction might take place via an intermediate stage during which olefines are formed. The structure of the alkylation products obtained was determined from infrared spectra; particular attention was paid to the structure of the side chain, which was investigated on the basis of the frequency of CH oscillations (2800-3000 cm^{-1}). The spectra of the alkyl naphthalenes and diphenyls (Figs. 1,2), the constants of which are given in a table, were recorded by means of an IKS-11 infrared spectrometer with the aid of an FEOU-15 amplifier. The assumption was confirmed that there is a weak interaction between the alkyl radicals and aromatic rings. The investigation results given in the paper show that in the way described the structures of the radicals in compounds of the type Ar-R (Ar = phenyl, diphenyl, naphthyl, and R = alkyl groups from C_3 to C_5) may be determined. Papers by A. V. Topchiyev, Ya. M. Paushkin, and M. V. Kurashev are mentioned in the paper. There are 2 figures, 1 table, and 22 references, 13 of which are Soviet.

SUBMITTED: September 17, 1958

Card 2/2

SLOVETSKIY, V.I.; SHLYAPOCHNIKOV, V.A.; SHEVELEV, S.A.; FAYNZIL'BERG, A.A.; NOVIKOV, S.S.

Molecular absorption spectra of nitro alkanes. Izv. AN SSSR. Otd. khim. nauk no.2:330-337 F '61. (MIRA 14:2)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
(Paraffins—Spectra)

SHUYKIN, N.I.; SHLYAPOCHNIKOV, V.A.; POZDNYAK, N.A.; LEBEDEV, B.L.

Catalytic alkylation of tetralin. Report No.4: Determination of the structure of alkyltetralins by infrared spectroscopy. Izv.AN SSSR Otd.khim.nauk no.3:466-468 Mr '61. (MIRA 14:4)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Naphthalene--Spectra)

SHLYAPOCHNIKOV, V.A.; SLOVETSKIY, V.I.

Use of pressed KCl pellets in ultraviolet spectrophotometry. Opt. i spektr. 10 no.2:265 F '61. (MIRA 14:2)
(Potassium chloride—Spectra)

NOVIKOV, S.S.; BABIYEVSKIY, K.K.; SHLYAPOCHNIKOV, V.A.

Synthesis and spectra of deuteronitroform. Dokl. AN SSSR
141 no.4:875-876 D '61. (MIRA 14:11)

1. Institut organicheskoy khimii AN SSSR. Predstavleno akademikom
A.V. Topchiyevym.
(Nitroform--Spectra) (Deuterium compounds)

SHLYAPOCHNIKOV, V.A.; FAYNZIL'BERG, A.A.

Spectra and structure of halo derivatives of trinitromethane.
Izv.AN SSSR.Otd.khim.nauk no.3:519-520 Mr '62. (MIRA 15:3)
(Nitroform) (Halogen compounds) (Spectrum analysis)

SHLYAPOCHNIKOV~~, V.A.;~~ SHEVELEV, S.A.; YERASHKO, V.I.; FAYNZIL'BERG, A.A.;
NOVIKOV, S.S.

Intensity of stretching N-O vibrations in nitro-alkanes and halogenated nitro alkanes. Izv.AN SSSR.Otd.khim.nauk no.9:1684-1686 S '62.
(MIRA 15:10)

1. Institut oganicheskoy khimii ii. N.D.Zelinskogo AN SSSR.
(Paraffins--Spectra)

POPOV, Ye.M.; SHLYAPOCHNIKOV, V.A.

Analysis of the vibrational spectra of polynitroalkanes.
Opt. i spektr. 15 no.3:325-331 S '63. (MIRA 16:10)

SHLYAPOSHNIKOV, B. M.

SHLYAPOSHNIKOV, B. M.

Shlyaposhnikov, B. M. defended his Doctor's dissertation in the Leningrad Polytechnic Institute im Kalinin, USSR, on December 1947, for the academic degree of Doctor of Technical Sciences.

Dissertation: "Ignitron-Rectifier Traction Substations for Electrified Main Railway Lines".

Official Opponents: Profs. M. P. Kostenko (Corrsp. Mbr. Academy of Sciences); L. R. Neyman (Doctor of Technical Sciences).

SO: Elektrichestvo, No. 7, Moscow, August 1953, pp 37-92 (W/29844, 16 Apr 54)

SHLYAPOSHNIKOV, B. M.

TA 29T26

USSR/Electricity Sep 1947
Rectifiers, Igniter
Rectification

"Theoretical and Practical Systems for Igniting Multiphase Ignitron Rectifiers," B. M. Shlyaposhnikov, Candidate in Technical Sciences, Leningrad Polytechnical Institute imeni Kalinin, 9 pp

"Elektrichestvo" No 9

Analyzes the basic types of systems for igniting ignitron rectifiers. Discusses them and recommends their use from the standpoint of economy and accuracy of operation. Explains the details of commutation at the rectifier during ignition. Discusses some of the experimental work on these ignitrons, and states some of the uses to which these ignitron rectifiers can be put.

LC 29T26

USSR/Electricity - Ionic Rectifiers Mar 52

"Operation of Ionic Converters for a Non-Sinusoidal AC Voltage," Dr Tech Sci B. M. Shlyaposhnikov, and Cand Tech Sci A. V. Posse, Leningrad

PA 240T24

"Elektrichestvo" No 3, pp 8-17

Examines theoretically the influence of non-sinusoidal ac voltage on line emfs of transformer windings connected to rectifier tubes, on the dc component of rectifier emf, on external characteristics, on harmonics of converter emf, on commutation angles, etc. Results cover both rectifier and inverter conditions

240T24

Describes new principle for insuring normal converter operation on non-sinusoidal ac voltage. Submitted 8 Jun 51.

240T24

SHLYAPOSHNIKOV, B. M.

SHLYAPOSHNIKOV, B.M.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 725 - X

Call No.: AF645793

BOOK

Author: Shlyaposhnikov, B. M., Prof.

Full Title: LABORATORY MANUAL FOR TESTING ELECTRON AND IONIC APPARATUS

Transliterered Title: Rukovodstvo k laboratorii elektronnykh i ionnykh ustroystv

PUBLISHING DATA

Originating Agency: None

Publishing House: State Power Engineering Publishing House

Date: 1954 No. pp.: 300 No. of copies: 5,000

Editorial Staff

Contributors: L. R. Neyman, Corr. Mem., Academy of Sciences, USSR; Prof. Ye. G. Shramkov; Engs. G. V. Ivenskiy and V. V. Tormasov, the Leningrad Polytechnical Institute; Senior Researcher K. P. Smirnov, Penza Industrial Institute.

Reviewers: Prof. I. L. Kaganov, Dotsent A. L. Gorelik, and Kand. of Tech. Sci. A. V. Posse.

PURPOSE AND EVALUATION: The book is written for university students studying electronics. It can also be used by the scientific and engineering personnel of industrial and governmental research laboratories. The aim of the book is to help students and research workers in the preparation of experimental material and in the

1/5

Rukovodstvo k laboratorii elektronnykh i ionnykh ustroystv AID 725 - X

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IV. Testing photoelectric devices 52-63
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Rukovodstvo k laboratorii elektronnykh i ionnykh ustroystv AID 725 - X

No. of References: Sixteen, all Soviet (1939-1953)
Facilities: In the introduction the author enumerates the following Soviet scientists who have contributed to the development of electronics: N. D. Papaleksi, M. A. Bonch-Bruyevich, A. A. Chernyshev, V. P. Vologdin, G. I. Babat, S. A. Vekshinskiy, A. I. Berg, and B. A. Vvedenskiy.

SHITIAKOVNIKOV, P. K.

Electric Current Converters

Performance of ionic converter at non-sinusoidal tension of an alternating current. Elektrichestvo No. 3, 1952 Kandidat Tekhn. Nauk

Monthly List of Russian Accessions, Library of Congress, June 1952. UNCLASSIFIED.

S/125/60/000/012/013/014
A161/A030

1.5400

AUTHORS: Shlyaposhnikov, B.M.; Reznikov, Yu.A. (Leningrad)

TITLE: Automatic Control of Direct Current Welding Circuit

PERIODICAL: Avtomaticheskaya svarka, 1960, No. 12, pp. 84 - 85

TEXT: It is important from the point of view of accident prevention to control the welding circuit automatically, i.e., switch welding voltage automatically on the electrode holder at the moment when it contacts the workpiece, and automatically remove welding voltage from the electrode holder at the moment when the arc breaks. The authors suggest such a control system (diagram, p. 85) for welding with direct current. The circuit contains two branches connected to the source of (welding) D.C. in the points 1, 2, 3 and 4, parallel the line electrode holder - welded metal (ЭМ). The contacts of a line contactor (ЛК) are connected in series between the two branches. Very low sinusoidal voltage (U_1) from the secondary winding (III) of the transformer (T) is connected into the right branch, and rectified and evened out voltage (U_3) from the winding (II) of the same transformer to the left branch. The U_3 voltage is so chosen as to exceed the maximum no-load voltage of the source U. The feed to the transformer (T is from the √C

Card 1/3

winding (I) side, with voltage U_c. A normally closed contact (P_2), the winding of the relay (P) and the capacitor (C) are connected into the right branch; the relay winding (P_2), valve (B) and capacitor (C_2) into the left. If voltage U is connected to the D.C. bus bars but the electrode is not in contact with metal, and the line contactor's (ЛК) contacts are open, the electrode holder (Э) is insulated from the welding voltage source and welding current is zero, and voltage (U_1) in the electrode holder is very low. The electrode must contact metal to start welding. Then, the current through the winding (P_1) will close the contacts (P_1), and current will appear in the (ЛК) coil circuit. This will cause the line contactor's contacts to close, and welding voltage (U) will be connected to the electrode. As is evident from the circuit diagram, voltage U_2 in the relay R_2 winding in the left branch will always be $U_2 = U_3 - U$. During the interruption interval $U = U_{x.x}$, and during the welding interval $U = U_{work}$ (where $U_{work} \angle U_{x.x}$). Bearing this in mind, the U_3 voltage value may be so chosen that during the interruption time the difference will be $U_3 - U_{x.x} = U_2 \approx 0$ and the P_2 relay will not work; during the welding time the difference will be $U_3 - U_{work} = U_2 > 0$, and the P_2 relay will work. One couple of the P_2 relay contacts will close the circuit of the ЛК contactor coil circuit, and the other couple will interrupt the

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Automatic Control of Direct Current Welding Circuit S/125/60/000/012/013/014
A161/A030

feed circuit of the P_1 relay winding. Thus no current will flow in the right branch during welding time, and the welding voltage is fed to the electrode holder through the left branch. When the welding stops (the arc interrupts), the U_2 voltage of the feed source rises to $U_{x.x}$ value. In the result the U voltage becomes too low to hold the relay P_2 closed, and this leads to interruption of the current circuit in the contactor ЛК winding. The work current circuit is then interrupted, and the electrode holder disconnected from the welding current source. What is important, the auxiliary U_1 voltage left on the electrode holder (Э) may be made several times lower than the voltage considered safe by the accident prevention rules. There is 1 figure.

SUBMITTED: June 8, 1960

Card 3/3

SHLYAPOSHNIKOV, B M., prof., doktor tekhn.nauk (Leningrad)

Parameters of nonlinear elements with a parabolic volt-ampere characteristic connected in a pulsating current circuit. Elektrichestvo no.2:79-81 F '61. (MIRA 14:3)

(Electronic circuits)

S/229/62/000/008/002/002
I011/I211

AUTHOR: Shlyaposhnikov, B.M., Doctor of Technical Sciences

TITLE: New electronic equipment for the control and automation of the technological processes of shipbuilding

TEXT: A list and a short description of new measuring instruments and automation devices are given. These devices were developed by a team of engineers under the direction of the author. The names of A.B. Voytsekhovskiy, S.M. Goloshchapov, Ge.M. Kon'kova, Yu.A. Reznikov, V.A. Sinitskiy and B.F. Shakhovnin are mentioned. The instruments listed are: (1) A meter of the hermetical sealing of compartments. Automatically compensates the influence of temperature changes on the reading of the final pressure in the compartment. Yields readings of the average temperature in the compartment. (2) A two-coordinate electronic level. A continuous remote

V

Card 1/3

S/229/62/000/008/002/002
I011/I211

New electronic equipment for the....

watching of the position of welded parts is made possible by this instrument. Yields simultaneous readings that characterise the deviations of a given plane along two axes. There are two scales for each axis: of 2.5 degrees and of 10 minutes maximum reading respectively. (3) A width-meter for non-conducting materials. Made in the form of a gun. When its operating end touches the measured part the deviation of its microammeter yields the reading in mm. (4) A level-stabiliser for a gas-cutter. Can be used on magnetic and non-magnetic materials. (5) A servo system for the automatic control of a three-cutter head motion in a gas-cutting machine. (6) A programming device for argon-arc pipe welding. The process parameters are programmed in advance according to the optimal technological specifications. Some indispensable operations are carried out automatically by the device. (7) An automatic cut-off for the

Card 2/3

S/229/62/000/008/002/002
I011/I211

New electronic equipment for the...

the electrode holder of a hand-welding machine. Provides security to the welder when working inside a metal structure. There are 7 figures.

✓

Card 3/3

SHLYAPOSHNIKOV, B.M., doktor tekhn.nauk; REZNIKOV, Yu.A., inzh.; SINITSKIY, V.A., inzh.

Automatic machine for the protection of welders from injuries inflicted by electric currents during manual welding. Sudostroenie 28 no.5:68-69 My '62. (MIRA 15:7)
(Electric welding—Safety appliances)

SHLYAPOSHNIKOV, B.M., doktor tekhn.nauk

New electronic devices for the control and automation of technological processes in shipbuilding. Sudostroenie 28 no.8:41-44 Ag '62. (MIRA 15:8)
(Shipbuilding) (Electronic measurements) (Automation)

SHLYAPOSHNIKOV, B.M., doktor tekhn. nauk; SINITSKIY, V.A., inzh.

Device for relieving welding stresses from the electrode holder during manual welding. Svar. proizv. no.3:39-40 Mr '65. (MIRA 18:5)

GUBENKO, T.P.; DEVYATKOV, N.D.; DOMANSKIY, B.I.; DONSKOY, A.V.; YEFREMOV, I.S.; ZHEZHERIN, R.P.; KAGANOV, I.L.; MANDRUS, D.B.; NETUSHIL, A.V.; PODGURSKIY, Ye.L.; ROZENFEL'D, V.Ye.; SVENCHANSKIY, A.D.; CHUKAYEV, D.S.; SHLYAPOSHNIKOV, B.M.

Professor G.I. Babat; obituary. Elektrichestvo no.1:94 Ja '61. (MIRA 14:4)

(Babat, Georgii Il'ich, 1911-1961)

TRIFOMOV, G.K.; SHLYAPOSHNIKOV, M.S.

Testing of hexachlorane dust in dusting of rice field from the airplane. Med. parazit., Moskva no.1:24-25 Jan-Feb 1953. (CLML 24:4)

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KUZNETSOV, A., red.

[Travels in the Crimea; a short guide] Puteshestviia po Krymu; kratkii spravochnik. Simferopol', Krymizdat, 1958. 111 p. (MIRA 12:8)

(Crimea--Description and travel)

OLINSKIY, Moisey Yakovlevich; SHLYAPOSHNIKOV, Vladimir Izrailevich;
CHEREPANOV, B., red.; FISENKO, A., tekhred.

[Crimea; guidebook-manual] Krym; putevoditel'-spravochnik. Izd.3. Simferopol', Krymizdat, 1959. 169 p. (MIRA 12:11)
(Crimea--Guidebooks)

OLINSKIY, Moisey Yakovlevich; SHLYAPOSHNIKOV, Vladimir Izrailevich; POLKANOV, A., obshchestvennyy red.; ISUPOVA, N., tekhn. red.

[The Crimea; guidebook and directory] Krym; putevoditel-spravochnik. Izd.5. Simferopol', Krymizdat, 1963. 202 p. (MIRA 16:9)

(Crimea--Guidebooks)

SHLYAPUGIN, P., inzh.-konstruktor

Sectional stepladder. Sel'.stroi. 9 no.1:18-19 Ja-F '54.
(MIRA 13:2)

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SHLYAREVSKIY, L.N.

The problem of phase relations on the boundary dielectric-metal. I. N. Shlyarevskii. *Zhur. Tekh. Fiz.* 20, 533-42 (1950).—By independent methods the magnitude and the sign of the phase shift arising when light is reflected on the dielectric-metal boundary for the ZnS-Ag system was detd. In most of the published articles the magnitude and the sign [illegible] incorrectly taken. The disper- [illegible] when light is reflected on the boundary [illegible] ZnS-Ag system was measured. A for- [illegible] by an interferometric [illegible] consideration the pres- [illegible] A new interferometric [illegible] of metals is presented. 10 [illegible]

SHLYAREVSKIY, I.N.; RYAZANOV, A.N.

Measuring the refractive index of zinc sulfide and cryolite thin films. Zhur.tekh.fiz.26 no.3:659-663 Mr '56. (MLRA 9:7)
(Refractive index) (Zinc sulfide) (Cryolite)

SHILANSKII, Feliks Nikolaevich

The physical and mechanical principles of electric mine hoisting. Moskva, Ugletekhizdat, 1950. 267 p. (51-34503)

TN339.S5

SHLYAYFERT, B.A., inzhener-kapitan; MEZENIN, O.L., starshiy inzhener-leytenant

Isn't there some other way? Vest.Vozd.Fl. no.6:76-77 Je '61. (MIRA 14:8)

(Airplanes, Military--Maintenance and repair)

RECHIN, V.D., inzh.-ekonomist; SMIRNOVA, G.A., inzh. ekonomist;
SHLYAZHAS, R.I., inzh.-ekonomist

Factors in differentiating the amounts of amortization deductions
in Kuznetsk Basin mines. Ugol' 40 no.4:58-62 Ap '65.
(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-
konstruktorskiy institut dobychi uglya gidravlicheskim sposobom.

SOV/136-59-5-14/21

AUTHORS: Manin, A.Ye., Shlychkov, L.A., and Nikolayev, M.A.

TITLE: Reduction of Fluorine-Salt Consumption and Increase in Labour Productivity in Aluminium Production (Snizheniye raskhoda ftoristykh soley i povysheniye proizvoditel'nosti truda pri proizvodstve alyuminiya)

PERIODICAL: Tsvetnyye metally, 1959, Nr 5, pp 67-72 (USSR)

ABSTRACT: In aluminium production by electrolysis of cryolite-alumina melts with continuous self-roasting anodes a coal-rich "froth" is produced on the bath surface. Removal of this froth has been considered necessary but leads to losses of fluorides and requires labour. The authors maintain that the deleterious effects of the froth have been exaggerated. Methods to improve froth handling have been tried at the Bogoslovskiy alyuminiyevyy zavod (Bogoslovskiy Aluminium Works) and proposed by M.I. Titov (1957) and by L.A. Shlychkov (1958). At the Ural Aluminium Works froth removal has been completely eliminated, reducing total consumption of fluorine salts by a factor of almost two and saving hundreds of thousands of roubles annually. The authors examine froth effects and conditions in terms

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SOV/136-59-5-14/21

Reduction of Fluorine-Salt Consumption and Increase in Labour Productivity in Aluminium Production

first of the equilibrium between carbon and carbon-dioxide and then of the kinetics of the C-CO_2 and coal-CO_2 reactions. They note the accelerating influence of many of the bath materials on the reaction and of some on anode disruption. Sodium fluoride is especially active. The amount of froth stabilizes when the rates of carbon input through anode disruption and of its gasification become equal. The authors show that at an electrolytic temperature of 950-960°C and optimal cryolite ratio froth accumulation ceases before it becomes harmful. They estimate the increase in labour productivity through the elimination of froth removal at 15-20% and point out that with this practice bath working can be mechanized and alumina additions made continuous. There are 2 figures, 1 table and 5 Soviet references.

Card 2/2

SHLYCHKOV, M.I.; VEREVKIN, A.F., veterinarnyy vrach

Controlling dictyocaulosis in sheep. Veterinariia 41 no.7: 52-53 Jl '64. (MIRA 18:11)

1. Zaveduyushchiy parazitologicheskim otdelom Kuybyshevskoy Nauchno-issledovatel'skoy veterinarnoy stantsii (for Shlychkov).

SHLYCHKOV, M.I.

Epizootiology of Anoplocephala infestation of sheep. Veterinariia 42 no.5:62-63 My '65. (MIRA 18:6)

1. Zaveduyushchiy parazitologicheskim otdelom Kuybyshevskoy nauchno-issledovatel'skoy veterinarnoy stantsii.